

## REMARKS

Claims 1-44 were previously pending in this patent application. Claims 1-44 stand rejected. Herein, Claims 1, 5, 8, 15, 20, 24, 25, and 35 have been amended. Accordingly, after this Amendment and Response, Claims 1-44 remain pending in this patent application. Further examination and reconsideration in view of the arguments set forth below is respectfully requested.

### 35 U.S.C. Section 103(a) Rejections

Claims 1-44 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ice, U.S. Pat. No. 5,884,031 (hereafter Ice) in view of Ishida, U.S. Pat. No. 6,122,259 (hereafter Ishida). These rejections are respectfully traversed.

Claim 1 as amended recites:

A method of communicating broadcast information comprising the steps of:

a) causing a server to communicate a first stream representing digital broadcast information to a first user device wherein said server and said first user device are coupled to the Internet;

b) causing said server to communicate a second stream representing said broadcast information to a second user device wherein said second user device is coupled to the Internet;

c) causing said first user device to communicate a third stream representing said broadcast information to a third user device wherein said third user device is coupled to the Internet;

d) receiving and rendering, concurrently, said broadcast information on said first, second and third user devices, wherein said user devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of user devices in corresponding tiers of said communication chains is variable; and

e) for each user device, ***registering with and periodically sending status update messages to a transmission scheduler that is separate from said server, wherein said transmission scheduler actively monitors, manages, and initiates changes in said communication chains*** among said server and said user devices.  
(emphasis added)

Ice discloses a private network having a number of client systems and a server system. [Ice; Col. 1, lines 36-40]. Further, Ice states that the server has a program for connecting the server with the client systems. [Ice; Col. 2, lines 37-54]. Moreover, the server has a hardfile that includes a database holding a list of all clients presently connected to the private network, with their IP (Internet Protocol) addresses. Id.

Additionally, Ice provides Figures 3 and 4 to illustrate operation of the private network. As depicted in Figure 3, the server waits for incoming requests from a client system. When a request is received, the server responds to the requests by connecting the new client to a port of the server, sending to the new client two available IP addresses within its database, sending to a connected client an additional available IP address within its database so that the connected client can re-establish a second data link through another client whose IP address has been provided, etc. That is, the server manages the private network and responds to requests from the clients.

However, Ice does not disclose a transmission scheduler that is separate from the server. In Ice, the clients register with and send messages to the server

instead of a transmission scheduler. Further, instead of having a transmission scheduler to actively monitor, manage, and initiate changes in the communication chains among the server and the clients, the private network of Ice relies on the server to solely respond to requests from the clients rather than actively monitoring, managing, and initiating changes in the private network.

Ishida discloses a multipoint video conference system using an ISDN. According to Ishida, each of the multipoint conference devices receives multicast data, such as audio or video data of a speaker, incoming via one of the ISDN lines, and displays the data on its monitor while sending it to the subsequent terminal under the control of a switch unit. [Ishida, Col. 4, lines 20-24]. As shown in Figure 5 of Ishida, each of the multipoint conference devices sends the data only to an adjacent terminal (either to the left of the transmitting terminal or to the right of the transmitting terminal), thus the video information cannot be simultaneously multicast.

It is respectfully submitted that Independent Claim 1 is patentable over Ice and Ishida. Unlike Ice and Ishida, Independent Claim 1 is directed to a method of communicating broadcast information having the steps of causing a server to communicate a first stream representing broadcast information to a first user device, causing the server to communicate a second stream representing the broadcast information to a second user device, causing the first user device to communicate a third stream representing the broadcast information to a third user device, and receiving and rendering, concurrently, the broadcast

information on the first, second, and third user devices, wherein the user devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of user devices in corresponding tiers of the communication chains is variable. Further, the method includes, for each user device, the step of registering with and periodically sending status update messages to a transmission scheduler that is separate from the server, wherein the transmission scheduler actively monitors, manages, and initiates changes in the communication chains among the server and the user devices. While Ice and Ishida are directed to a communication method that relies on the server to respond to the clients, Claim 1 is directed to a communication method that includes a transmission scheduler (separate from a server), a server, and client devices, wherein the transmission scheduler actively monitors, manages, and initiates changes. Hence, the Independent Claim 1 is patentable over Ice and Ishida and is in a condition for allowance.

Dependent Claims 2-7 are dependent on allowable Independent Claim 1, which is allowable over including Ice and Ishida. Hence, it is respectfully submitted that Dependent Claims 2-7 are patentable over the Ice and Ishida for the reasons discussed above.

With respect to Independent Claim 8, it is respectfully submitted that Independent Claim 8 recites similar limitations as in Independent Claim 1. In particular, Independent Claim 8 recites a method of broadcasting information, wherein the method includes achieving broadcasting of the broadcast

information for the first group and a second group of electronic devices by forwarding the broadcast information from the first group of electronic devices to the second group of electronic devices of the network such that the first and second groups of electronic devices receive and render, concurrently, the broadcast information, wherein the electronic devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of electronic devices in corresponding tiers of the communication chains is variable. Further, the method includes, for each electronic device, the step of registering with and periodically sending status update messages to a transmission scheduler that is separate from the server, wherein the transmission scheduler actively monitors, manages, and initiates changes in the communication chains among the server and the electronic devices. Therefore, Independent Claim 8 is allowable over Ice and Ishida for reasons discussed in connection with Independent Claim 1.

Dependent Claims 9-14 are dependent on allowable Independent Claim 8, which is allowable over Ice and Ishida. Hence, it is respectfully submitted that Dependent Claims 9-14 are patentable over Ice and Ishida for the reasons discussed above.

With respect to Independent Claim 15, it is respectfully submitted that Independent Claim 15 recites similar limitations as in Independent Claim 1. In particular, Independent Claim 15 recites a method of communicating broadcast information, wherein the method includes receiving and rendering, concurrently,

the broadcast information on the second and third user devices, wherein the user devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of user devices in corresponding tiers of the communication chains is variable. Further, the method includes, for each user device, the step of registering with and periodically sending status update messages to a transmission scheduler that is separate from the server, wherein the transmission scheduler actively monitors, manages, and initiates changes in the communication chains among the server and the user devices. Therefore, Independent Claim 15 is allowable over Ice and Ishida for reasons discussed in connection with Independent Claim 1.

Dependent Claims 16-23 are dependent on allowable Independent Claim 15, which is allowable over Ice and Ishida. Hence, it is respectfully submitted that Dependent Claims 16-23 are patentable over Ice and Ishida for the reasons discussed above.

With respect to Independent Claim 24, it is respectfully submitted that Independent Claim 24 recites similar limitations as in Independent Claim 1. In particular, Independent Claim 24 recites a system for communicating broadcast information, wherein the system includes a second and a third user devices also for receiving and rendering, concurrently, the broadcast information, wherein the user devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of user devices in corresponding tiers of the communication chains is variable. Further, the

system has a transmission scheduler for actively monitoring, managing, and initiating changes in the communication chains among the server and the user devices, and wherein each user device registers with and periodically sends status update messages to the transmission scheduler that is separate from the server. Therefore, Independent Claim 24 is allowable over Ice and Ishida for reasons discussed in connection with Independent Claim 1.

Dependent Claims 25-34 are dependent on allowable Independent Claim 24, which is allowable over Ice and Ishida. Hence, it is respectfully submitted that Dependent Claims 25-34 are patentable over Ice and Ishida for the reasons discussed above.

With respect to Independent Claim 35, it is respectfully submitted that Independent Claim 35 recites similar limitations as in Independent Claim 1. In particular, Independent Claim 35 recites a system for communicating broadcast information. The system includes a server and user devices, wherein the user devices form one or more communication chains, wherein each communication chain has one or more tiers, and wherein a sum of user devices in corresponding tiers of the communication chains is variable. Further, the system has a transmission scheduler for actively monitoring, managing, and initiating changes in the communication chains among the server and the user devices, and wherein each user device registers with and periodically sends status update messages to the transmission scheduler that is separate from the server.

Therefore, Independent Claim 35 is allowable over Ice and Ishida for reasons discussed in connection with Independent Claim 1.

Dependent Claims 36-44 are dependent on allowable Independent Claim 35, which is allowable over Ice and Ishida. Hence, it is respectfully submitted that Dependent Claims 36-44 are patentable over Ice and Ishida for the reasons discussed above.



### CONCLUSION

It is respectfully submitted that the above amendments, arguments and remarks overcome all rejections. For at least the above-presented reasons, it is respectfully submitted that all remaining claims (Claims 1-44) are now in condition for allowance.

The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Please charge any additional fees or apply any credits to our PTO deposit account number: 23-0085.

Respectfully submitted,

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